4.0 The User Environment

4.1 Information in the User Environment

The user environment includes a mix of manual and automated business processes that involve information in many formats and systems (some decentralized). Users need to be able to link this information together into a common solution to manage their particular business process. Spatial data and record information (alpha/numeric, text, etc.) need to be able to be linked. Accurate, timely, consistent information is necessary to manage land in an efficient, cost effective manner.

The volume of data and records involved in land management is enormous. For example:

- Private-sector organizations manage volumes of land information as they interact with government agencies and within the private sector for the purchase, lease, sale, use and management of lands. For example, mining and timber companies must manage millions of acres of land, and title companies often develop their own land information systems to support the verification of title for insurance as part of land transactions.

- State, county and local governments manage thousands of cadastral and subdivision plats. Most states have agencies that manage the state's land holdings. These holdings can be parks, lands for facilities, roads, resource areas, set asides, or development rights. In most states, local governments (typically counties) are responsible for recording land ownership information, records of surveys, and, in some cases, conducting surveys. State and local governments approve or review developments, land plans, and surveys.

- The Bureau of Indian Affairs (BIA) has a responsibility to protect tribal lands, assets, resources, and treaty rights, as well as a duty to carry out the mandates of federal law with respect to American Indian and Alaska Native tribes. The BIA administers 43,450,266.97 acres of tribally-owned land, 10,183,530.13 acres of individually-owned land, and 417,224.98 acres of federally- owned land which is held in trust status.

- The National Park Service (NPS) is responsible to promote and regulate the use of Federal areas known as national parks, monuments and reservations, to conserve the scenery, natural and historic objects and the wildlife therein, and to provide for their enjoyment by such means as will leave them unimpaired for the enjoyment of future generations. The National Park System encompasses approximately 80.7 million acres, of which more than 2.8 million acres remain in private ownership.

- The U.S. Fish and Wildlife Service (USFWS) is the principal Federal agency responsible for conserving, protecting and enhancing fish, wildlife and plants and their habitats for the continuing benefit of the American people. The USFWS manages the 93-million acre National Wildlife Refuge System of more than 520 national wildlife refuges and thousands of small wetlands and other special management areas.

- The U.S. Forest Service (USFS) is responsible for managing 192 million acres of forest and grasslands. In addition, a majority of America's forests are privately owned (393 million acres). The USFS updates road and steam inventories, participates in land exchanges, fulfills cartographic requests, and monitors rangeland.

■ The Bureau of Land Management (BLM) is responsible for keeping and maintaining the documents related to land ownership for the United States, surveying and maintaining the public lands surveys system, and maintaining the Master Title Plats for close to 50,000 townships. It maintains over 140,000 plats, including survey plats, supplemental plats, and oil and gas plats. The BLM manages approximately 46 million parcels of land. Overall, the BLM manages 264 million acres of surface and 300 million acres if subsurface.

4.2   Users and Cadastral and Land Records Transactions

Each day across the United States, persons involved in land records manage and make decisions affecting millions of acres of land. These decisions are often based on both manual and automated transactions entered into a variety of systems that frequently produce other required events to take place within the business process. The various transactions are often interrelated and can trigger an update cycle that effects various cadastral databases.

Figure 4.1 depicts some of the users involved in land record management activities and some of the typical events in the land management and land records update cycles.
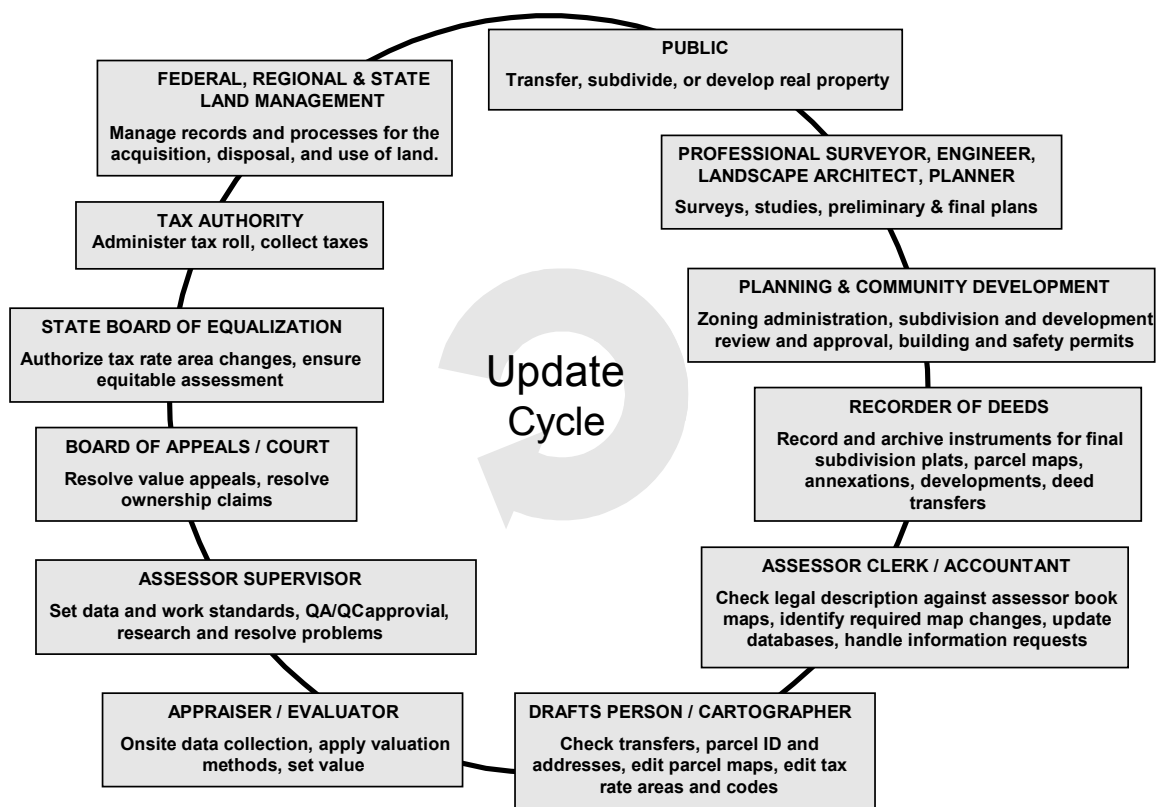

Figure 4.1. Users Involved in Land Rcord Management Activities

4.3 User Roles

Federal, state, county, and local government staff and private land and resource managers, professional surveyors and others with requirements for cadastral land records participated in the initial business process analysis. As a result of this participation the organizations were able to envision a return on their investment that included such goals as increased staff productivity and elimination of process and data redundancy.

Teams were formed representing the entire spectrum of this user community to describe the business processes, define the supporting scenarios for each process and provide steps that might occur within a scenario. The combination of these business processes, scenarios and steps is what makes up the requirements and use cases described in Sections 7.0 through 11.0.

Other user groups, such as BLM's GCDB Technical Advisory Group, the National Association of Counties' GIS Committee, the National States Geographic Information Council, the Intertribal GIS Council, and other state and local organizations from across the United States have been provided briefings on the NILS Project. Great interest in the project has resulted from these briefings.

The NILS is promoting partnerships for the development of a common data model and tools that may be extended and/or customized to meet the needs of all who wish to cooperatively collect, maintain and store parcel-based data.

4.4 Benefits

As a principal sponsor of NILS, the BLM will prepare a Return on Investment (ROI) Analysis and Report prior to the design and development phases of the project. This ROI will be compliant with the Clinger/Cohen Act. The other NILS partners may have similar requirements for preparing investment analysis.

The following are some of the qualitative benefits which would result from the implementation of NILS.

- ■ Integration of positional and descriptive parcel-based land information for all boundary information (surveyed and non-surveyed)

- ■ Users would be able to relate information to a specific parcel on the landscape

- ■ Provide the ability to link the display of parcel-based land status and ownership with other resource information

- ■ Facilitates analysis of potential land uses, opportunities, and conflicts for planning and environmental analysis and other decision making processes

- ■ Consistent methods of creating and editing parcels

- ■ Resolves problems with associating or aggregating legal description(s) from the legal description fabric.